PDR® 35 EDITION 1981

Physicians' Desk Reference®

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ISBN 0-87489-958-1

Wyeth—Cont.

Approximately 60% of penicillin G is bound to serum protein. The drug is distributed throughout the body tissues in widely varying amounts. Highest levels are found in the kidneys with lesser amounts in the liver, skin and intestines. Penicillin G penetrates into all other tissues and the spinal fluid to a lesser degree. With normal kidney function the drug is excreted rapidly by tubular excretion. In neonates and young infants and in individuals with impaired kidney function, excretion is considerably delayed.

Indications: Intramuscular penicillin G benzathine is indicated in the treatment of infections due to penicillin G sensitive microorganisms that are susceptible to the low and very prolonged serum levels common to this particular dosage form. Therapy should be guided by bacteriological studies (including sensitivity tests) and by clinical response.

The following infections will usually respond to adequate dosage of intramuscular penicillin G benzathine.

Streptococcal infections (group A—without bacteremia). Mild-to-moderate infections of the upper respiratory tract (e.g. pharyngitis).

Venereal infections—Syphilis, yaws, bejel, and pinta.

Medical Conditions in Which Penicillin G Benzathine Therapy is Indicated as Prophylaxis: Rheumatic fever and/or chorea—Prophylaxis with penicillin G benzathine has proven effective in preventing recurrence of these conditions. It has also been used as follow-up prophylactic therapy for rheumatic heart disease and acute glomerulonephritis.

Contraindications: A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

Warnings: Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well-documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents e.g., pressor amines, antihistamines and corticosteroids.

Precautions: Penicillin should be used with caution in individuals with histories of significant allergies and/or asthma.

Care should be taken to avoid intravenous or intra-arterial administration, or injection into or near major peripheral nerves or blood vessels, since such injection may produce neurovascular damage.

In streptococcal infections, therapy must be sufficient to eliminate the organism; otherwise the sequelae of streptococcal disease may occur. Cultures should be taken following completion of treatment to determine whether streptococci have been eradicated.

Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms, including fungi. Should superinfection occur, appropriate measures should be taken.

Adverse Reactions: The hypersensitivity reactions reported are skin eruptions (maculopapular to exfoliative dermatitis), urticaria and other serum sickness-like reactions, laryngeal edema and anaphylaxis. Fever and eosinophilia may frequently be the only reaction observed. Hemolytic anemia, leukopenia, thrombocytopenia, neuropathy and nephropathy are infrequent reactions and usually associated with high doses of parenteral penicillin.

As with other treatments for syphilis, the Jarisch-Herxheimer reaction has been reported.

Dosage and Administration:

Streptococcal (Group A) upper respiratory infections (for example, pharyngitis).

A single injection of 1,200,000 units for adults.

A single injection of 900,000 units for older children.

A single injection of 300,000 to 600,000 units for infants and for children under 60 pounds.

Venereal infections—

Syphilis—Primary, secondary and latent—2.4 million units (1 dose). Late (tertiary and neurosyphilis)—2.4 million units at 7-day intervals for three doses.

Congenital—under 2 years of age: 50,000 units/kg./body weight; ages 2-12 years: adjust dosage based on adult dosage schedule.

Yaws, Bejel and Pinta—1.2 million units (1 injection).

Prophylaxis—for rheumatic fever and glomerulonephritis.

Following an acute attack, penicillin G benzathine (parenteral) may be given in doses of 1,200,000 units once a month or 600,000 units every 2 weeks.

Administer by **deep intramuscular injection** in the upper outer quadrant of the buttock. In infants and small children, the midlateral aspect of the thigh may be preferable. When doses are repeated, vary the injection site. Before injecting the dose, aspirate to be sure needle bevel is not in a blood vessel.

The Wyeth disposable syringe for this product incorporates several new features that are designed to facilitate its use.

A single small indentation, or "dot", has been punched into the metal ring that surrounds the neck of the syringe near the base of the needle. It is important that this "dot" be placed in a position so that it can be easily visualized by the operator following the intramuscular insertion of the syringe needle. Once the needle has been inserted, aspiration should be carried out in accordance with good medical technic before the medication is injected. During the process of aspiration the barrel of the syringe immediately proximal to the location of the "dot" should be closely observed by the operator, since this is the area in which blood that may have entered the needle is most likely to appear.

When using the Tubex or the disposable syringe, if blood or any suspicious discoloration is apparent, the needle should be withdrawn without injecting any of the medication, the syringe and its contents discarded, and the process repeated using a new syringe at a different site.

Some Tubex cartridges and disposable syringes may contain a small air bubble which may be disregarded since it does not affect administration of the product. Because of the high concentration of suspended material in this product, the needle may be blocked if the injection is not made at a slow, steady rate.

Shake multiple dose vial vigorously before withdrawing the desired dose. Shake the Tubex cartridge vigorously before injecting contents.

How Supplied: Bicillin® L-A (sterile penicillin G benzathine suspension) Injection: *300,000 units per ml.*—vials of 10 ml.; *600,000 units per 1 ml.* Tubex® sterile cartridge needle unit, packages of 10; *900,000 units per Tubex*—1.5 ml. fill in 2 ml. size, packages of 10; *1,200,000 units per 2 ml.* disposable syringe or Tubex, packages of 10; *2,400,000 units per 4 ml.* disposable syringe, packages of 10.

BIOLOGICALS

For prescribing information on products listed—and for which full prescribing information is not provided—write to Professional Service, Wyeth Laboratories, Box 8299, Philadelphia, PA, 19101, or contact your local Wyeth representative.

ANTIVENIN (CROTALIDAE) POLYVALENT

(equine origin)

Important: Pit viper bites may cause severe tissue damage or fatal envenomation, or both. The physician responsible for treatment of an envenomated patient should be familiar with the contents of this brochure and the pertinent medical literature concerning current concepts of first-aid and general supportive therapy as presented in the references listed at the end of this pamphlet.

Composition: Antivenin (Crotalidae) Polyvalent, Wyeth, is a refined and concentrated preparation of serum globulins obtained by fractionating blood from healthy horses immunized with the following venoms: *Crotalus adamanteus* (eastern diamond rattlesnake), *C. atrox* (western diamond rattlesnake), *C. durissus terrificus* (tropical rattlesnake, Cascabel), and Bothrops atrox ("Fer-de-lance"). Phenol, 0.25%, and thimerosal, 0.005%, are added as preservatives. The product is standardized by its ability to neutralize the lethal action of standard venoms by intravenous injection in mice.[1] Dried from the frozen state, the lyophilized serum has a moisture content of less than 1% and is soluble on addition of the diluent contained in each package (Bacteriostatic Water for Injection, USP, with preservative 0.001% phenylmercuric nitrate).

Antivenin (Crotalidae) Polyvalent, Wyeth (hereinafter referred to as Antivenin) contains protective substances capable of neutralizing the toxic effects of venoms of crotalids (pit vipers) native to North, Central, and South America, including rattlesnakes (*Crotalus, Sistrurus*); copperhead and cottonmouth moccasins (*Agkistrodon*) including *A. halys* of Korea and Japan; the Fer-de-lance and other species of *Bothrops*; the tropical rattler (*Crotalus durissus* and similar species); the Cantil (*A. bilineatus*); and bushmaster (*Lachesis mutus*) of South and Central America.

Indication: Antivenin is indicated only for the treatment of envenomation caused by bites of those crotalids (pit vipers) specified in the immediately preceding paragraph.

Pit Viper Bites and Envenomation: The symptoms, signs, and severity of snake-venom poisoning resulting from pit viper bites depend on many factors, including, but not limited to, the following variables: species, age, and size of the biting snake; the number and location of bite(s); the depth of venom deposit by the snake's fangs; the condition of the snake's fangs and venom glands; the length of time the snake "hangs on"; the age, general health, and size of the victim; the type and efficacy of any first-aid treatment rendered in an attempt to remove venom and how soon such treatment was applied. In any venomous snake bite, the actual amount of venom introduced into the victim is always an unknown. Even the type of clothing or leg-footwear through which the snake's fangs pass may affect the amount of venom delivered by the bite. Although most North American pit vipers tend to bite and introduce venom superficially, their fangs may get hung-up in the subcutaneous tissues during the biting act and can penetrate deeper tissues during the attempt to release the bitten part. In some bites the fangs may penetrate into muscle. In such cases, the usual local superficial manifestations of envenomation may not appear early in the course of poisoning. In bites by some species, systemic evidence of envenomation may be present in the absence of significant local manifestations. It may be difficult to determine the severity of envenomation during the first several hours after a pit viper bite and estimates of severity may need to be revised as poisoning progresses. It must be re-

membered, too, that not all pit viper bites result in envenomation. In approximately 20% of rattlesnake bites, the snake may not inject any venom. The local and systemic symptoms and signs of envenomation include the following:

LOCAL:

Fang puncture(s).

Swelling—edema is usually seen around the site of bite within five minutes. It may progress rapidly and involve the entire extremity within an hour. More than 95% of all snakebites are inflicted on extremities.[2] Generally, however, edema spreads more slowly, usually over a period of 8 or more hours. Swelling is usually most severe following envenomation by the eastern diamondback; less severe after bites by the western diamondback, prairie, timber, red, Pacific, Mojave, and blacktailed rattlers, the sidewinder and cottonmouth moccasins; least severe after bites by copperheads, massasaugas, and pygmy rattlers.

Ecchymosis and discoloration of the skin—often appear in the area of the bite within a few hours. Vesicules may form within a few hours and are usually present at 24 hours. Hemorrhagic blebs and petechiae are common. Necrosis may develop, necessitating amputation of an extremity or a portion thereof.

Pain—frequently a complaint of the victim beginning shortly after the bite by most pit vipers. Pain may be absent after bites by Mojave rattlers.

SYSTEMIC:

Weakness; faintness; nausea; sweating; numbness or tingling around the mouth, tongue, scalp, fingers, toes, site of bite; muscle fasciculations; hypotension, prolongation of bleeding and clotting times; hemoconcentration, early followed by a decrease in erythrocytes; thrombocytopenia; hematuria; proteinuria; vomiting, including hematemesis; melena; hemoptysis; epistaxis. In fatal poisoning, a frequent cause of death is associated with destruction of erythrocytes and changes in capillary permeability, especially of the pulmonary vascular system, leading to pulmonary edema; hemoconcentration usually occurs early, probably as a result of plasma loss secondary to vascular permeability; the hemoglobin may fall, and bleeding may occur throughout the body as early as 6 hours after the bite. Renal involvement is not uncommon. Mojave rattler venom may cause neuromuscular changes leading to respiratory failure.

An estimate of the severity of envenomation should be made as soon as possible and before any Antivenin is administered. The amount (volume) of the first dose of Antivenin is determined on this estimate of severity. Every symptom, sign, laboratory-test result, and any other pertinent information should be considered in estimating severity—local manifestations; systemic manifestations, including abnormal laboratory findings; species and size of the biting snake, if known; number and location of bite(s); size and health of the patient; type of first-aid treatment rendered; and interval between bite and arrival for treatment. Russell et al,[3] and Wingert and Wainschel[4] grade severity as follows:

No envenomation—no local or systemic manifestations.

Minimal envenomation—local swelling and other local changes; no systemic manifestations; normal laboratory findings.

Moderate envenomation—swelling progressing beyond the site of bite and one or more systemic manifestations; abnormal laboratory findings, for example, a fall in hematocrit or platelets.

Severe envenomation—marked local response, severe systemic manifestations and significant alteration in laboratory findings.

Parrish and Hayes,[5] McCullough and Gennaro,[6] and Watt and Gennaro[7] have used a Grade 0 (no envenomation) through Grade IV (very severe) classification of severity which was developed for the most part in treatment of envenomation by the eastern diamondback and timber rattlers. This classification is more dependent on local manifestations, or the absence thereof, as the venoms of these species seem to be more consistent in inducing local tissue damage.

Any suspected envenomation should be treated as a medical emergency, and until careful observation provides clear evidence that envenomation has not occurred or is minimal, the following procedures are recommended:

Monitor vital signs at frequent intervals: Blood pressure, pulse, respiration.

Draw sufficient blood as soon as possible for baseline laboratory studies, including type and cross-match, CBC, hematocrit, platelet count, prothrombin time, clot retraction, bleeding and coagulation times, BUN, electrolytes, bilirubin. Some of these studies may need to be repeated at daily intervals, or less, depending on the severity of envenomation and the response to treatment. During the first 4 or 5 days of severe envenomations, hemoglobin, hematocrit, and platelet counts should be carried out several times a day.

Obtain urine samples at frequent intervals for analysis, with special attention to microscopic examination for presence of erythrocytes.

Chart fluid intake and urine output.

Measure and record the circumference of the bitten extremity just proximal to the bite and at one or more additional points each several inches closer to the trunk. Repeat measurements every 15-30 minutes to obtain information about progression of edema.

Have available and ready for immediate use: Oxygen, resuscitation equipment including airway, tourniquet, epinephrine, injectable antihistaminic agents, and corticosteroids.

Start an intravenous infusion in one or two extremities: one line to be used for supportive therapy, if needed, such as whole blood, plasma, packed red cells, specific clotting factors, platelet transfusion, plasma expanders; the other line to be used for administration of Antivenin and electrolytes.

Carry out and interpret a skin test for horse-serum sensitivity. (See Precautions section below.)

Dosage and Administration: Before administration, read Precautions and Systemic Reactions sections below. Since the possibility of a severe immediate reaction (anaphylaxis) exists whenever a horse-serum-containing product is administered, appropriate therapeutic agents, including a tourniquet, airway, oxygen, epinephrine, an injectable pressor amine, and corticosteroid, must be available and ready for immediate use. Constant attendance and observation of the patient for untoward reactions are mandatory when Antivenin is administered. Should any systemic reaction occur, administration should be discontinued immediately and appropriate treatment initiated.

The intravenous route of administration is preferred, and probably should always be used for moderate or severe envenomation. Intravenous administration is mandatory if venom-induced shock is present. To be most effective, Antivenin should be administered within 4 hours of the bite; it is less effective when given after 8 hours and may be of questionable value after 12 hours. However, it is recommended that Antivenin therapy be given in severe poisonings, even if 24 hours have elapsed since the time of the bite. It should be kept in mind that maximum blood levels of Antivenin may not be obtained for 8 or more hours after intramuscular administration.

For intravenous-drip use, prepare a 1:1 to 1:10 dilution of reconstituted Antivenin in Sodium Chloride Injection, USP, or 5% Dextrose Injection, USP. To avoid foaming, mix by gently swirling rather than shaking. Allow the initial 5 to 10 ml to infuse over a 3- to 5-minute period, with careful observation of the patient for evidence of untoward reaction. If no symptoms or signs of an immediate systemic reaction appear, continue the infusion with delivery at the maximum safe rate for intravenous fluid administration. The dilution of Antivenin to be used, the type of electrolyte solution used for dilution, and the rate of intravenous delivery of the diluted Antivenin must take into consideration the age, weight, and cardiac status of the patient; the severity of envenomation; the total amount and type of parenteral fluids it is anticipated will be given or are needed; and the interval between bite and initiation of specific therapy.

It is important to give as soon as possible the entire initial dose of Antivenin as based on the best estimate of the severity of envenomation at the time treatment is begun. The following initial doses are recommended:[3,4,8]

no envenomation—none

minimal envenomation—20-40 ml (contents of 2-4 vials)

moderate envenomation—50-90 ml (contents of 5-9 vials)

severe envenomation—100-150 ml or more (contents of 10-15 or more vials)

These recommended initial-dosage volumes are in general accord with those of others.[9,12]

The need for additional Antivenin must be based on the clinical response to the initial dose and continuing assessment of the severity of poisoning. If swelling continues to progress or if systemic symptoms or signs of envenomation increase in severity or if new manifestations appear, for example, fall in hematocrit or hypotension, administer an additional 10-50 ml (contents of 1-5 vials) intravenously.

Envenomation by large snakes in children or small adults requires larger doses of Antivenin. The amount administered to a child is not based on weight.

If Antivenin is given intramuscularly, it should be given into a large muscle mass, preferably the gluteal area, with care to avoid nerve trunks. Antivenin should never be injected into a finger or toe.

The effectiveness of corticosteroids in treatment of envenomation per se or venom shock is not resolved. Russell[3] and others[2,10] believe corticosteroids may mask the seriousness of hypovolemia in moderate or severe poisoning and have little, if any, effect on the local-tissue response to rattler venoms. Corticosteroids should not be given simultaneously with Antivenin on a routine basis or during the acute stage of envenomation; however, their use may be necessary to treat immediate allergic reactions to Antivenin, and corticosteroids are the agents of choice for treating serious delayed reactions to Antivenin.

Snakes' mouths do not harbor Clostridial organisms. However, appropriate tetanus prophylaxis is indicated, since tetanus spores may be carried into the fang puncture wounds by dirt present on skin at time of bite or by nonsterile first-aid procedures.

A broad-spectrum antibiotic in adequate dosage is indicated if local tissue damage is evident.

Shock following envenomation is treated like shock resulting from hypovolemia from any cause, including administration of whole blood, plasma, albumin, or other plasma expanders, as indicated.

Aspirin or codeine is usually adequate for relieving pain. Sedation with phenobarbital or mild tranquilizers may be used if indicated, but not in the presence of respiratory failure.

The bitten extremity should not be packed in ice, and so-called "cryotherapy" is contraindicated.

Technic for Reconstituting the Dried Antivenin: Pry off the small metal disc in the cap over the diaphragms of the vials of Antivenin and diluent. Swab the exposed surface of the

Continued on next page

Wyeth—Cont.

rubber diaphragms of both vials with an appropriate germicide. With a sterile 10 ml syringe and needle, withdraw the diluent (Bacteriostatic Water for Injection, USP, containing phenylmercuric nitrate 1:100,000) from the vial of diluent and inject it into the vial of antivenin. Gentle agitation will hasten complete dissolution of the lyophilized Antivenin.

Precautions: Before administration of any product prepared from horse serum, appropriate measures must be taken in an effort to detect the presence of dangerous sensitivity: (1) A careful review of the patient's history, including any report of (a) asthma, hay fever, urticaria, or other allergic manifestations; (b) allergic reactions upon exposure to horses; and (c) prior injections of horse serum. (2) A suitable test for detection of sensitivity. A skin test should be performed in every patient prior to administration, regardless of clinical history.

Skin test—Inject intracutaneously 0.02 to 0.03 ml of a 1:10 dilution of Normal Horse Serum or Antivenin. A control test on the opposite extremity, using Sodium Chloride Injection, USP, facilitates interpretation. Use of larger amounts for the skin-test dose increases the likelihood of false-positive reactions, and in the exquisitely sensitive patient, increases the risk of a systemic reaction from the skin-test dose. A 1:100 or greater dilution should be used for preliminary skin testing if the history suggests sensitivity. A positive reaction to a skin test occurs within five to thirty minutes and is manifested by a wheal with or without pseudopodia and surrounding erythema. In general, the shorter the interval between injection and the beginning of the skin reaction, the greater the sensitivity.

If the history is negative for allergy and the result of a skin test is negative, proceed with administration of Antivenin as outlined above. If the history is positive and a skin test is strongly positive, administration may be dangerous, especially if the positive sensitivity test is accompanied by systemic allergic manifestations. In such instances, the risk of administering Antivenin must be weighed against the risk of withholding it, keeping in mind that severe envenomation can be fatal. (See last paragraph of this section.)

A negative allergic history and absence of reaction to a properly applied skin test do not rule out the possibility of an immediate reaction. Also, a negative skin test has no bearing on whether or not delayed serum reactions (serum sickness) will occur after administration of the full dose.

If the history is negative, and the skin test is mildly or questionably positive, administer as follows to reduce the risk of a severe immediate systemic reaction. (a) Prepare, in separate sterile vials or syringes, 1:100 and 1:10 dilutions of Antivenin. (b) Allow at least 15 minutes between injections and proceed with the next dose if no reaction follows the previous dose. (c) Inject subcutaneously, using a tuberculin-type syringe, 0.1, 0.2, and 0.5 ml of the 1:100 dilution at 15-minute intervals; repeat with the 1:10 dilution, and finally undiluted Antivenin. (d) If a systemic reaction occurs after any injection, place a tourniquet proximal to the site of injections and administer an appropriate dose of epinephrine, 1:1000, proximal to the tourniquet or into another extremity. Wait at least 30 minutes before injecting another dose. The amount of the next dose should be the same as the last that did not evoke a reaction. (e) If no reaction occurs after 0.5 ml of undiluted Antivenin has been administered, switch to the intramuscular route and continue doubling the dose at 15-minute intervals until the entire dose has been injected intramuscularly or proceed to the intravenous route as described above under Dosage and Administration.

Obviously, if the just-described schedule is used, 3 to 5 or more hours would be required to administer the initial dose suggested for a moderate or severe envenomation, and time is an important factor in neutralization of venom in a critically ill patient. Wingert and Wainschel[4] have described a procedure based on the experience of their group which they have used in some severely envenomated patients who have positive sensitivity tests. 50 to 100 mg of diphenhydramine hydrochloride is given intravenously, followed by slow intravenous infusion of diluted Antivenin for 15 to 20 minutes while carefully observing the patient for symptoms and signs of anaphylaxis; if anaphylaxis does not occur, Antivenin is continued maintaining close observation of the patient. Patients who require Antivenin but develop signs of impending anaphylaxis in spite of this or the procedure described earlier present a difficult problem, and consultation should be sought.

Systemic Reactions: A. The immediate reaction (shock, anaphylaxis) usually occurs within 30 minutes. Symptoms and signs may develop before the needle is withdrawn and may include apprehension, flushing, itching, urticaria, edema of the face, tongue, and throat; cough, dyspnea, cyanosis, vomiting, and collapse.

B. Serum sickness usually occurs 5 to 24 days after administration. The incubation period may be less than 5 days, especially in those who have received horse-serum-containing preparations in the past. The usual symptoms and signs are malaise, fever, urticaria, lymphadenopathy, edema, arthralgia, nausea, and vomiting. Occasionally, neurological manifestations develop, such as meningismus or peripheral neuritis. Peripheral neuritis usually involves the shoulders and arms. Pain and muscle weakness are frequently present, and permanent atrophy may develop.

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ANTIVENIN (Micrurus fulvius) ℞
(equine origin)

Composition: Each combination package contains one vial of lyophilized Antivenin (Micrurus fulvius) with 0.25% phenol and 0.005% thimerosal (mercury derivative) as preservatives (before lyophilization); one vial of diluent containing 10 ml. of Bacteriostatic Water for Injection, U.S.P., with phenylmercuric nitrate (1:100,000) as preservative.

How Supplied: Combination packages as described (not returnable).

CHOLERA VACCINE, U.S.P. ℞

Description: Each ml. contains 8 units each serotype antigen (Ogawa and Inaba). The preservative is 0.5% phenol.

How Supplied: Vials of 1.5 ml. and 20 ml.

DIPHTHERIA AND TETANUS TOXOIDS ADSORBED (PEDIATRIC) ℞
aluminum phosphate adsorbed,
ULTRAFINED®

Description: Antigens adsorbed on aluminum phosphate. Preservative is 0.01% thimerosal (mercury derivative).

How Supplied: Vials of 5 ml.; and 0.5-ml. Tubex® Sterile Cartridge-Needle Units, packages of 10.

DIPHTHERIA AND TETANUS TOXOIDS AND PERTUSSIS VACCINE ADSORBED ℞
aluminum phosphate
adsorbed
ULTRAFINED®
Triple Antigen

Description: Triple Antigen Adsorbed (Diphtheria and Tetanus Toxoids and Pertussis Vaccine Adsorbed), Wyeth, is a combination of diphtheria toxoid adsorbed, tetanus toxoid adsorbed, and pertussis vaccine. The diphtheria toxoid is prepared by cultivating a suitable strain of *Corynebacterium diphtheriae* on a modified Mueller's casein hydrolysate medium (J. Immunology 37:103, 1939). The tetanus toxoid is prepared by growing a suitable strain of *Clostridium tetani* on a protein-free semisynthetic medium (Appl. Microbiol. 10:146, 1962). Formaldehyde is used as the toxoiding (detoxifying) agent for both diphtheria and tetanus toxins. The final product contains no more than 0.02 percent free formaldehyde. The pertussis vaccine component is prepared by growing suitable strains of Phase I B. pertussis on a modified Cohen and Wheeler medium (casein hydrolysate medium with yeast dialysate (Wadsworth:Standard Methods, 3rd. Ed., p. 200, Williams and Wilkins Co., 1947) supplemented with 5% agar and 4% charcoal. The preservative in the final product is 0.01% thimerosal (mercury derivative).

The aluminum content of the final product does not exceed 0.85 mg per 0.5 ml dose. During processing, hydrochloric acid and sodium hydroxide are used to adjust the pH. Sodium chloride is added to the final product to control isotonicity.

The total primary immunizing dose (1.5 ml) contains 12 protective units of pertussis vaccine.

Indication: Triple Antigen, Aluminum Phosphate Adsorbed, Wyeth, is indicated for active immunization of infants and children through 6 years of age against diphtheria, tetanus, and pertussis.[1]

Contraindications: A febrile acute respiratory infection or other active infection is reason for deferring administration.

Occurrence of any of the following signs, symptoms, or conditions following administration is a contraindication to further use of this product and/or pertussis vaccine as the single ant